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[54] **XYLITOL DELIVERY**

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[51] **Int. Cl.**⁷ **A61F 13/00**

[52] **U.S. Cl.** **424/434**; 514/23; 514/738

[58] **Field of Search** 514/23, 738; 424/434

References Cited

U.S. PATENT DOCUMENTS

5,719,196 2/1998 Uhari 514/738

OTHER PUBLICATIONS

Kontiokari T, Uhari M, Koskela, M. Antiadhesive effects of xylitol on otopathogenic bacteria. *Jour. of Antimicrobial Chemotherapy* (1998) 41: 563-565.

Naaber P, Lehto E, Salminen S, Mikelsaar M. Inhibition of adhesion of *Clostridium difficile* to Caco-2 cells. *FEMS Immunology and Medical Microbiology*. (1996) 14: 205-209.

Touster, Oscar. The Metabolism of Polyols. Chapter 15 of *Sugars in Nutrition*. Eds. Sippl, H, and McNutt, K. Academic Press. New York. 1974.

Uhari M, Kontiokari T, Koskela M, Niemela M. Xylitol chewing gum in prevention of acute otitis media: double blind randomised trial. *BMJ*. Nov. 9, 1996: 313 (7066): 1180-1184.

Uhari M, Kontiokari T, Niemela M. A Novel Use of Xylitol Sugar in Preventing Acute Otitis Media. *Pediatrics* (1998) 102(4): (Oct. 4, 1998) p. 879-884.

Adam, E, Mitchell, B, Schumacher, D, Grant, G, and Schumacher, U. *Pseudomonas aeruginosa* II Lectin Stops Human Ciliary Beating: Therapeutic Implications of Fucose. *Am J Respir Crit Care Med* (1997) 155: 2101-2104.

Asano, T, Levitt, M, and Goetz, F. Xylitol Absorption in Healthy Men. *Diabetes* (1973) 22(4): 279-281.

Axford, J. Glycobiology and medicine: an introduction. *J R Soc Med.* (1997) 90: 260-264.

Jori, A. The sugar Alcohols: A Profile. *Advances in Pharmacology and Chemotherapy*. 20: 191-218. Academic Press. New York 1984.

Murray, R, Granner, D, Mayes, P, and Rodwell, V. *Harper's Biochemistry*. 24 ed. Appleton & Lange, Stamford, CN. 139, 648-649, and 651, 1996.

Sharon, N, Eshdat, Y, Silverblatt, F, and Ofek, I. Bacterial adherence to cell surface sugars. *Adhesion and microorganism pathogenicity*. Pitman Medical. 1981. 119-140.

Strömqvist, M, Falk, P, Bergtröm, S, Hansson, L, Lönnerdal, B, Normark, S, and Hernell, O. Human Milk K-Casein and Inhibition of *Helicobacter pylori* Adhesion to Human Gastric Mucosa. *Journal of Pediatric Gastroenterology and Nutrition*. 21: 288-296. 1995.

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[57] **ABSTRACT**

Nasopharyngeal congestion, irritation, and inflammation and associated upper respiratory infections such as otitis media, sinusitis are adjunctively treated and prevented by nasal application of xylitol/xyllose in a saline solution.

12 Claims, No Drawings